

Seismic Design of Anchors in accordance to ACI 318

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Abstract

Anchor connections in buildings situated in seismically active areas may be subjected to seismic action no matter whether these connections are structural or non-structural. It is vital to ensure that these connections respond to a seismic event in a proper and predictable manner by means of designing the resistance and displacement carefully as they may not only have a direct impact on the safety of human beings, but also on proper functioning of the structure and therefore on possible loss of serviceability or efficiency during and after a seismic event.

ACI 318-14 has a specific chapter (Chapter 17) on the design of anchor connections to concrete and within that chapter are specific clauses that deal with seismic conditions. Together with ACI 355.2 and ACI 355.4 which specifies how the anchor resistances are determined, these chapters will show clearly how to select and design for anchor connections to account for the stresses during a seismic event. This talk will attempt to share and summarize the major points of these chapters within the ACI code to help designers be clearer on the seismic considerations for post-installed anchors in accordance to the latest provisions in ACI 318-14.